

## Oligoanalgesia in the Emergency Setting

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### Summary

Although the goal of therapy in acutely painful conditions is to supply adequate analgesic to relieve pain, these situations are known to be underevaluated and undertreated in EDs in virtually all parts of the world. Many factors contribute to the undertreatment of acute pain in the emergency setting.

Patients' evaluation of pain should be the main reference upon decision-making to provide analgesics or not. The patients' individual characteristics would shape the mode and dosage of the treatment. The clinician should decide which agents are the best choice to relieve pain in a given situation. Dose and route of the therapeutics should be adjusted to the individual requirements. The implementation of clear-cut protocols of pain management is to be stressed on to improve records of pain assessment and shorten time spent before the first analgesic given.

### Pain in the Emergency Department (ED)

Pain is one of the most common reasons why patients seek emergency care. It is also one of the few areas a physician can make a difference toward more efficient patient care.

Acute pain which generally lasts for hours to days is among the most common complaints recorded in the ED setting [1]. Although it is an expected output of acute conditions and injuries which prompted the patients' referrals to the ED, this is partly a result of quite painful nature of many procedures and invasive diagnostic and therapeutic procedures undertaken in the ED [2]. The treatment of acute pain is almost always in accord with treatment of the underlying disease or condition [3].

The assessment of pain in acute situations involves the location, quality and severity of the discomfort. Patients' claims should be the sole reference point when deciding whether to administer analgesics or not. The clinician must depend on the patient to supply key information on the characteristics of the pain. Analgesic choice, dose and route of the therapeutics should also be adjusted to the individual requirements.

Expectations for full compliance with the pain management standards of the Joint Commission on Accreditation of Healthcare Organizations (JCAHO) began in the early 2000's. In the JCAHO guidelines, examples of implementation of this standard in clinical practice include the addition of pain as the "fifth" vital sign to be noted in the context of initial assessment; the use of pain intensity ratings; and posting of a statement on pain management in all patient care areas [4].

The term "oligoanalgesia" was first pronounced by Wilson and Pendleton in 1989 [5]. They used the word to describe "too little" analgesia and occurs when physicians provide less than optimal pain relief.

The objective of this study is to highlight analgesia practices and the current status of oligoanalgesia in the EDs or acute setting.

## Methods

A review of online databases was performed for well-designed trials which examined analgesia practices with a special emphasis on undertreatment of pain or oligoanalgesia in the acute setting. Papers were examined for methodological soundness before being included. Online searches were performed using the following search keywords and terms: 'analgesia' OR 'oligoanalgesia' AND 'pain', AND 'emergency medicine', AND 'acute disease'. The reference lists of retrieved articles were used to generate more papers. Data were independently extracted by two blinded reviewers.

## Assessment of Pain in the Acutely Ill

Pain is what the patient states it is. A diverse spectrum of psychological, sociocultural, temporal and situational variables affects how people perceive and express their pain. Age, sex, ethnicity, accompanying psychiatric problems and economic status of the patient are among the factors that may affect the way an individual expresses his/her complaints. In an unblinded study women tended to report the severity of pain higher than men did and therefore, received more pain medications (6). Thus the painful experience becomes a unique phenomenon for each patient, thereby necessitating use of versatile tools of assessment in the clinical practice.

## Oligoanalgesia in the Management of Pain

Many researches pointed out a phenomenon of underuse of analgesia in general medical practice [7-9]. More specifically, emergency physicians are noted to fail to address and properly manage painful conditions [10-13].

Subgroups of the patients in ED at risk for oligoanalgesia are summarized in Table 1.

**Table 1:** ED population carrying remarkable risk for oligoanalgesia

Extreme ages: newborn, infants and geriatric patients
Males
Ethnic minorities
Patients undergoing certain procedures (e.g. abscess drainage, burn dressing, fracture reduction)
Educationally and psychologically handicapped patients
Patients with language or other communication problems
Patients discharged home from ED

Due to the absence of objective measures, the clinician must depend on the patient to supply key information on the localization, quality and severity of the pain. The value of the patient's description of the location and nature of the discomfort has been proved in the context of formal teaching and routine practice, though physicians frequently question the reported severity and rely on their own estimates [14]. There are many reasons for oligoanalgesia. It is a common practice to withhold analgesics if an alert patient does not ask for painkiller medications. Being in extreme ages is also a factor for oligoanalgesia [15]. Young children, comprise a risky group for being "too young to need analgesia" [16].

In a study on children subjected to trauma, around a half of patients with broken bones were treated with analgesia in the ED [7]. In another paper, two-thirds of 109 geriatric trauma patients with fractures received analgesics versus 80% of younger ones [15]. Fifty-nine percent of female versus 41% of male patients received analgesia while in the ED [5]. On the contrary, there are studies indicating a tendency to underestimate and undertreat pain in female patients [17].

Many researchers have stressed that suffering of patients with emergency conditions are unnecessarily protracted in the EDs. Silka, *et al.* reported that in trauma patients the time to administer the first dose of analgesics was 109 minutes [18]. During this study, less than two-fifths of patients with major trauma received analgesics in the ED. Patients with long bone fractures, females, and those spending more time in the ED were most likely to be administered analgesics. Patients with head injuries commonly did not receive analgesics. Jantos *et al.* showed only one-tenth of adults and 4% of children with orthopedic trauma received pain treatment while in the ED [10]. In another study, 70% of the elderly with trauma were treated with

painkillers, compared with 84% of those 18–64 years old [19]. Trauma patients  $\geq 65$  years of age are less likely to receive analgesia than the younger ones in the ED and waited longer to get it. In the recent years, reports from both developed and developing countries have kept claiming that a high percentage of patients were discharged with unacceptable pain levels [20,21]. In 2015, Pierik *et al.* suggested the use of multimodal pain management or the implementation of a pain management protocol might be useful methods to optimize pain relief in Netherlands EDs [20]. Moroccan researchers wrote that up to 25% of patients felt their pain unrelieved when they are discharged from the hospital [21].

In 2014, Sampson *et al.* conducted a systematic review on seven databases for studies reporting pain management outcomes after intervention to change professional practice to improve pain management in the ED [22]. They pointed out the insufficiencies in the theoretical framework and understanding, and indicated that many interventions reported improvements in pain management, but current evidence is inadequate to recommend any for widespread adoption. These reports are in line with the report by Dale *et al.* in Norwegian EDs that assessment and management of pain in the acute setting are inadequate and not in accord with the local protocols [23]. Of note, patients with hypoxemia and hypotension were less likely to be asked about pain. Of those with moderate and severe pain (58%), only 14% received pain relief.

Several reasons for withholding analgesics from patients in the acute medical/surgical setting have been suggested: possible masking of primary symptoms [24]; potential deleterious physiological consequences of opioids including hypotension, nausea and vomiting, altered mental status, urinary retention and constipation [25], and a lack of priority among nurses and physicians [24,26].

To date, few medical schools have included acute control of pain as part of a core curriculum. Thus medical students may conclude that pain control is not a priority. It has been demonstrated that pain treatment may improve with a few hours of focused teaching [27]. Nurses' knowledge deficits were also blamed as a source of insufficiency in pain management [28,29].

A related pitfall in the ED management of pain is the fear of using opioids: "opiophobia". A major reason for opiophobia is the avoidance of causing uncontrollable side effects in emergency patients, such as respiratory depression, hypotension, or oversedation. These are preventable with adherence to basic rules of usage [29]. Respiratory depression is very unlikely if titration to effect is used. Furthermore, the emergency physicians are capable of managing the patient in extremis in these situations.

Although there are many patients whose pain could effectively be controlled with non-opioid agents, opioids are the drugs of choice for the control of severe acute pain.

A general principle of pain management is that smaller doses of analgesics are required to prevent pain than to treat pain. Analgesics are optimally administered at short fixed intervals before pain recurs [30,31].

## Conclusion

Acute pain conditions are underevaluated and undertreated in ED, suggesting that ED staff need more education about acute pain. Many factors contribute to the undertreatment of acute pain in the emergency setting.

Decisions regarding administration of pain medications are impaired by a full range of biases, e.g. based on age, gender and ethnicity. Concerns of addiction, inadequacy of education with respect to opioids and other analgesics also contribute to the treatment failure.

The goal of therapy is to provide enough analgesic to relieve the patient's pain, using techniques that minimize undesirable side effects and provide prompt relief.

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